Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

KEMRON Environmental Services
1359A Ellsworth Industrial Blv
Atlanta GA 30318

December 28, 2011

Project: Riverside Avenue

Submittal Date: 12/14/2011
Group Number: 1281138
SDG: RAK01
PO Number: SF1838-018
State of Sample Origin: NJ

Client Sample Description	Lancaster Labs (LLI) #
Frac Tank 3 Grab Sample	6500135
Building 7 Basement Solid Grab Sample	6500136

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	KEMRON Environmental Services	Attn: Janelle Murphy
ELECTRONIC COPY TO	Data Package Group	

Lancaster Laboratories

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Analysis Report

Questions? Contact your Client Services Representative
Loran A Carter at (717) 656-2300 Ext. 1375

Respectfully Submitted,

Lancaster Laboratories

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Analysis Report

Sample Description: Frac Tank 3 Grab Sample
Riverside Avenue

LLI Sample # WW 6500135
LLI Group # 1281138
Account # 09694

Project Name: Riverside Avenue

Collected: 12/12/2011 16:30 by KS

Submitted: 12/14/2011 18:40
Reported: 12/28/2011 16:45

KEMRON Environmental Services
1359A Ellsworth Industrial Blv
Atlanta GA 30318

FT3RA SDG#: RAK01-01

CAT No.	Analysis Name	CAS Number	As Received Result		As Received MRL*	As Received EDL	Dilution Factor
Dioxins/Furans	**SW-846 8290A**		**pg/l**		**pg/l**	**pg/l**	
10915	2378-TCDD	1746-01-6	< 200		200	33.6	1
10915	12378-PeCDD	40321-76-4	< 1,000		1,000	62.7	1
10915	123478-HxCDD	39227-28-6	< 1,000		1,000	91.3	1
10915	123678-HxCDD	57653-85-7	47,500	B	1,000	92.6	1
10915	123789-HxCDD	19408-74-3	2,370	B	1,000	85.3	1
10915	1234678-HpCDD	35822-46-9	3,290,000 EB		1,000	446	1
10915	OCDD	3268-87-9	59,800,000 EB		2,000	639	1
10915	2378-TCDF	51207-31-9	222	C	200	53.6	1
10915	12378-PeCDF	57117-41-6	< 1,000		1,000	29.8	1
10915	23478-PeCDF	57117-31-4	< 1,000		1,000	27.0	1
10915	123478-HxCDF	70648-26-9	2,820	B	1,000	78.2	1
10915	123678-HxCDF	57117-44-9	< 1,000		1,000	74.1	1
10915	123789-HxCDF	72918-21-9	< 1,000		1,000	71.6	1
10915	234678-HxCDF	60851-34-5	2,420	B	1,000	73.9	1
10915	1234678-HpCDF	67562-39-4	170,000 B		1,000	127	1
10915	1234789-HpCDF	55673-89-7	14,800	B	1,000	143	1
10915	OCDF	39001-02-0	1,330,000 B		2,000	108	1

Reporting limits were raised due to interference from the sample matrix.

An OPR was not analyzed due to the reduced volume necessitated by the sample.

Total Homologues	**SW-846 8290A**		**pg/l**		**pg/l**	**pg/l**	
10915	Total TCDD	41903-57-5	3,110	QB	200	33.6	1
10915	Total PeCDD	36088-22-9	5,210	QB	1,000	62.7	1
10915	Total HxCDD	34465-46-8	93,100 QB		1,000	89.6	1
10915	Total HpCDD	37871-00-4	4,750,000 B		1,000	446	1
10915	Total PCDD	n.a.	64,600,000 BQ				1
10915	Total TCDF	55722-27-5	4,710	QB	200	53.6	1
10915	Total PeCDF	30402-15-4	4,560	QB	1,000	28.3	1
10915	Total HxCDF	55684-94-1	90,900 QB		1,000	74.3	1
10915	Total HpCDF	38998-75-3	917,000 QB		1,000	134	1
10915	Total PCDF	n.a.	2,350,000 BQ				1
10915	Total PCDD/PCDF	n.a.	67,000,000 BQ				1

Labeled Compounds	**%Rec**	**Windows**
13C12-2378-TCDD	72	25 - 164
13C12-12378-PeCDD	73	25 - 181
13C12-123478-HxCDD	60	32 - 141
13C12-123678-HxCDD	62	28 - 130
13C12-123789-HxCDD	64	28 - 130

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: Frac Tank 3 Grab Sample
Riverside Avenue

LLI Sample # WW 6500135
LLI Group # 1281138
Account # 09694

Project Name: Riverside Avenue

Collected: 12/12/2011 16:30 by KS

Submitted: 12/14/2011 18:40
Reported: 12/28/2011 16:45

KEMRON Environmental Services
1359A Ellsworth Industrial Blv
Atlanta GA 30318

FT3RA SDG#: RAK01-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received MRL*	As Received EDL	Dilution Factor

Labeled Compounds	%Rec	Windows
13C12-1234678-HpCDD	58	23 - 140
13C12-OCDD	50	17 - 157
13C12-2378-TCDF	53	24 - 169
13C12-12378-PeCDF	55	24 - 185
13C12-23478-PeCDF	58	21 - 178
13C12-123478-HxCDF	54	26 - 152
13C12-123678-HxCDF	54	26 - 123
13C12-234678-HxCDF	54	28 - 136
13C12-123789-HxCDF	60	29 - 147
13C12-1234678-HpCDF	52	28 - 143
13C12-1234789-HpCDF	50	26 - 138
13C12-OCDF	43	17 - 157

Dioxins/Furans Data Qualifiers:

B *Detected in Method Blank*
U *Undetected*
J *Estimated concentration between Estimated Detection Limit and Minimum Level*
E *Exceeds calibration range*
C *Confirmed quantitation on secondary GC column*
Q *EMPC - Estimated Maximum Possible Concentration*
F *Interference is present*
S *Saturation of detection signal*

General Sample Comments

State of New Jersey Lab Certification No. PA011

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10915	Dioxins/Furans in Water - HRMS	SW-846 8290A	1	11354002	12/22/2011 19:44	Joseph D Anderson	1
10914	Dioxins/Furans in Water - SepF	SW-846 8290A	1	11354002	12/20/2011 12:00	Deborah M Zimmerman	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: Building 7 Basement Solid Grab Sample
Riverside Avenue

LLI Sample # SW 6500136
LLI Group # 1281138
Account # 09694

Project Name: Riverside Avenue

Collected: 12/13/2011 08:00 by KS

Submitted: 12/14/2011 18:40
Reported: 12/28/2011 16:45

KEMRON Environmental Services
1359A Ellsworth Industrial Blv
Atlanta GA 30318

BL7RA SDG#: RAK01-02*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM20 2540 G**		%	%	%	
00111	Moisture	n.a.	44.4	0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

*=This limit was used in the evaluation of the final result

Sample Description: Building 7 Basement Solid Grab Sample
Riverside Avenue

LLI Sample # SW 6500136
LLI Group # 1281138
Account # 09694

Project Name: Riverside Avenue

Collected: 12/13/2011 08:00 by KS

Submitted: 12/14/2011 18:40
Reported: 12/28/2011 16:45

KEMRON Environmental Services
1359A Ellsworth Industrial Blv
Atlanta GA 30318

BL7RA SDG#: RAK01-02*

CAT No.	Analysis Name	CAS Number	Dry Result		Dry MRL*	Dry EDL	Dilution Factor
Dioxins/Furans	**SW-846 8290A**		**ng/kg**		**ng/kg**	**ng/kg**	
11031	2378-TCDD	1746-01-6	681	B	17.1	2.39	1
11031	12378-PeCDD	40321-76-4	1,810	B	85.6	2.16	1
11031	123478-HxCDD	39227-28-6	570	B	85.6	2.46	1
11031	123678-HxCDD	57653-85-7	2,710	B	85.6	2.75	1
11031	123789-HxCDD	19408-74-3	3,430	B	85.6	2.51	1
11031	1234678-HpCDD	35822-46-9	98,400 EB		85.6	8.39	1
11031	OCDD	3268-87-9	1,640,000 EB		171	7.85	1
11031	2378-TCDF	51207-31-9	< 17.1		17.1	0.912	1
11031	12378-PeCDF	57117-41-6	< 85.6		85.6	0.592	1
11031	23478-PeCDF	57117-31-4	< 85.6		85.6	0.529	1
11031	123478-HxCDF	70648-26-9	< 85.6		85.6	1.16	1
11031	123678-HxCDF	57117-44-9	< 85.6		85.6	1.10	1
11031	123789-HxCDF	72918-21-9	< 85.6		85.6	1.26	1
11031	234678-HxCDF	60851-34-5	< 85.6		85.6	1.11	1
11031	1234678-HpCDF	67562-39-4	874	B	85.6	1.50	1
11031	1234789-HpCDF	55673-89-7	96.4	B	85.6	1.77	1
11031	OCDF	39001-02-0	3,670	B	171	1.30	1
Reporting limits were raised due to interference from the sample matrix.							
Total Homologues	**SW-846 8290A**		**ng/kg**		**ng/kg**	**ng/kg**	
11031	Total TCDD	41903-57-5	3,630	B	17.1	2.39	1
11031	Total PeCDD	36088-22-9	10,500 QB		85.6	2.16	1
11031	Total HxCDD	34465-46-8	27,900 QB		85.6	2.57	1
11031	Total HpCDD	37871-00-4	164,000 B		85.6	8.39	1
11031	Total TCDF	55722-27-5	150	QB	17.1	0.912	1
11031	Total PeCDF	30402-15-4	208	QB	85.6	0.559	1
11031	Total HxCDF	55684-94-1	773	QB	85.6	1.15	1
11031	Total HpCDF	38998-75-3	3,970	QB	85.6	1.62	1

Labeled Compounds	**%Rec**	**Windows**
13C12-2378-TCDD	80	25 - 164
13C12-12378-PeCDD	84	25 - 181
13C12-123478-HxCDD	77	32 - 141
13C12-123678-HxCDD	73	28 - 130
13C12-123789-HxCDD	76	28 - 130
13C12-1234678-HpCDD	70	23 - 140
13C12-OCDD	56	17 - 157
13C12-2378-TCDF	66	24 - 169
13C12-12378-PeCDF	67	24 - 185
13C12-23478-PeCDF	70	21 - 178
13C12-123478-HxCDF	66	26 - 152
13C12-123678-HxCDF	67	26 - 123
13C12-234678-HxCDF	66	28 - 136
13C12-123789-HxCDF	64	29 - 147
13C12-1234678-HpCDF	62	28 - 143

*=This limit was used in the evaluation of the final result

Sample Description: Building 7 Basement Solid Grab Sample
Riverside Avenue

LLI Sample # SW 6500136
LLI Group # 1281138
Account # 09694

Project Name: Riverside Avenue

Collected: 12/13/2011 08:00 by KS

Submitted: 12/14/2011 18:40
Reported: 12/28/2011 16:45

KEMRON Environmental Services
1359A Ellsworth Industrial Blv
Atlanta GA 30318

BL7RA SDG#: RAK01-02*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry MRL*	Dry EDL	Dilution Factor

Labeled Compounds	%Rec	Windows
13C12-1234789-HpCDF	57	26 - 138
13C12-OCDF	45	17 - 157

Dioxins/Furans Data Qualifiers:

B *Detected in Method Blank*
U *Undetected*
J *Estimated concentration between Estimated Detection Limit and Minimum Level*
E *Exceeds calibration range*
C *Confirmed quantitation on secondary GC column*
Q *EMPC - Estimated Maximum Possible Concentration*
F *Interference is present*
S *Saturation of detection signal*

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: Building 7 Basement Solid Grab Sample
Riverside Avenue

LLI Sample # SW 6500136
LLI Group # 1281138
Account # 09694

Project Name: Riverside Avenue

Collected: 12/13/2011 08:00 by KS

Submitted: 12/14/2011 18:40
Reported: 12/28/2011 16:45

KEMRON Environmental Services
1359A Ellsworth Industrial Blv
Atlanta GA 30318

BL7RA SDG#: RAK01-02*

General Sample Comments

State of New Jersey Lab Certification No. PA011

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11031	Dioxins/Furans in Solids-HRMS	SW-846 8290A	1	11350003	12/20/2011 13:57	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	SW-846 8290A	1	11350003	12/16/2011 12:00	Deborah M Zimmerman	1
00111	Moisture	SM20 2540 G	1	11350820006B	12/16/2011 19:38	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Quality Control Summary

Client Name: KEMRON Environmental Services Group Number: 1281138
Reported: 12/28/11 at 04:45 PM

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank LOQ**	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 11350820006B	Sample number(s): 6500136								
Moisture					100		99-101		

Analysis Name	Blank Result	Blank MRL**	Blank EDL	Report Units	OPR %REC	OPRD %REC	OPR/OPRD Limits	RPD	RPD Max
Batch number: 11350003	Sample number(s): 6500136								
2378-TCDD	< 1.00	1.00	0.0151	ng/kg	90		67-158		
12378-PeCDD	< 5.00	5.00	0.0151	ng/kg	94		70-142		
123478-HxCDD	< 5.00	5.00	0.0115	ng/kg	91		70-164		
123678-HxCDD	< 5.00	5.00	0.0118	ng/kg	92		76-134		
123789-HxCDD	< 5.00	5.00	0.0109	ng/kg	99		64-162		
1234678-HpCDD	< 5.00	5.00	0.0161	ng/kg	96		70-140		
OCDD	< 10.0	10.0	0.0177	ng/kg	97		78-144		
2378-TCDF	< 1.00	1.00	0.0157	ng/kg	99		75-158		
12378-PeCDF	< 5.00	5.00	0.00840	ng/kg	97		80-134		
23478-PeCDF	< 5.00	5.00	0.00830	ng/kg	92		68-160		
123478-HxCDF	< 5.00	5.00	0.0137	ng/kg	100		72-134		
123678-HxCDF	< 5.00	5.00	0.0117	ng/kg	99		84-130		
123789-HxCDF	< 5.00	5.00	0.0142	ng/kg	103		78-130		
234678-HxCDF	< 5.00	5.00	0.0127	ng/kg	98		70-156		
1234678-HpCDF	< 5.00	5.00	0.00890	ng/kg	91		82-122		
1234789-HpCDF	< 5.00	5.00	0.0122	ng/kg	96		78-138		
OCDF	< 10.0	10.0	0.0205	ng/kg	99		63-170		
Batch number: 11354002	Sample number(s): 6500135								
2378-TCDD	< 200	200.	19.8	pg/l					
12378-PeCDD	< 1,000	1,000.	21.8	pg/l					
123478-HxCDD	< 1,000	1,000.	14.3	pg/l					
123678-HxCDD	< 1,000	1,000.	14.4	pg/l					
123789-HxCDD	< 1,000	1,000.	13.6	pg/l					
1234678-HpCDD	< 1,000	1,000.	16.0	pg/l					
OCDD	< 2,000	2,000.	23.9	pg/l					
2378-TCDF	< 200	200.	18.0	pg/l					
12378-PeCDF	< 1,000	1,000.	13.2	pg/l					
23478-PeCDF	< 1,000	1,000.	12.5	pg/l					
123478-HxCDF	< 1,000	1,000.	11.3	pg/l					
123678-HxCDF	< 1,000	1,000.	10.8	pg/l					
123789-HxCDF	< 1,000	1,000.	10.5	pg/l					
234678-HxCDF	< 1,000	1,000.	10.5	pg/l					
1234678-HpCDF	< 1,000	1,000.	9.91	pg/l					
1234789-HpCDF	< 1,000	1,000.	10.7	pg/l					
OCDF	< 2,000	2,000.	17.9	pg/l					
Batch number: 11350003	Sample number(s): 6500136								

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ / MRL.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: KEMRON Environmental Services Group Number: 1281138
Reported: 12/28/11 at 04:45 PM

Analysis Name	Blank Result	Blank MRL**	Blank EDL	Report Units	OPR %REC	OPRD %REC	OPR/OPRD Limits	RPD	RPD Max
Total TCDD	< 1.00	1.00	0.0151	ng/kg					
Total PeCDD	< 5.00	5.00	0.0151	ng/kg					
Total HxCDD	< 5.00	5.00	0.0114	ng/kg					
Total HpCDD	< 5.00	5.00	0.0161	ng/kg					
Total TCDF	< 1.00	1.00	0.0157	ng/kg					
Total PeCDF	< 5.00	5.00	0.00830	ng/kg					
Total HxCDF	< 5.00	5.00	0.0130	ng/kg					
Total HpCDF	< 5.00	5.00	0.0103	ng/kg					
Batch number: 11354002	Sample number(s): 6500135								
Total TCDD	< 200	200.	19.8	pg/l					
Total PeCDD	< 1,000	1,000.	21.8	pg/l					
Total HxCDD	< 1,000	1,000.	14.1	pg/l					
Total HpCDD	< 1,000	1,000.	16.0	pg/l					
Total PCDD	1,390			pg/l					
Total TCDF	< 200	200.	18.0	pg/l					
Total PeCDF	< 1,000	1,000.	12.8	pg/l					
Total HxCDF	< 1,000	1,000.	10.7	pg/l					
Total HpCDF	< 1,000	1,000.	10.3	pg/l					
Total PCDF	988			pg/l					
Total PCDD/PCDF	2,380			pg/l					

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 11350820006B	Sample number(s): 6500136			BKG: P499694					
Moisture						10.8	10.2	6	15

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed
unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Dioxins/Furans in Solids-HRMS
Batch number: 11350003

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
6500136	80	70	66	67	66	64
Blank	76	78	68	76	69	66
OPR	69	66	58	63	59	60
Limits:	25-164	21-178	26-152	26-123	28-136	29-147

	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
6500136	62	57	45	84	77	73
Blank	83	64	52	96	86	88
OPR	73	55	46	80	70	70

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ / MRL.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: KEMRON Environmental Services Group Number: 1281138
Reported: 12/28/11 at 04:45 PM

Surrogate Quality Control

Limits:	28-143	26-138	17-157	25-181	32-141	28-130
	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF	
6500136	76	70	56	66	67	
Blank	89	87	72	64	77	
OPR	71	73	60	52	68	
Limits:	28-130	23-140	17-157	24-169	24-185	

Analysis Name: Dioxins/Furans in Water - HRMS
Batch number: 11354002

	13C12-2378-TCDD	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF	13C12-234678-HxCDF	13C12-123789-HxCDF
6500135	72	58	54	54	54	60
Blank	75	67	66	68	68	73
Limits:	25-164	21-178	26-152	26-123	28-136	29-147
	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD
6500135	52	50	43	73	60	62
Blank	70	69	62	84	78	79
Limits:	28-143	26-138	17-157	25-181	32-141	28-130
	13C12-123789-HxCDD	13C12-1234678-HpCDD	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF	
6500135	64	58	50	53	55	
Blank	81	82	69	60	65	
Limits:	28-130	23-140	17-157	24-169	24-185	

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ / MRL.
(2) The unspiked result was more than four times the spike added.

Lancaster Laboratories

Analysis Request/Environmental Services Chain of Custody

For Lancaster Laboratories use only Acct. #: 9694

Group #: 1281138 Sample #: 65 00135-36

Client:	KEMRON Environmental Services	Acct. #:	
Project Name/#:	Riverside Avenue	PWSID #:	
Project Manager:	Kevin Shaver	P.O. #:	SF1838-018
Sampler:	Kevin Shaver	Quote #:	

Name of State where samples were collected: New Jersey

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Potable	Matrix: NPDES	Matrix: Water	Matrix: Other	Total # of Containers	Analyses Requested: Dioxin/Furans 8290A
Frac Tank 3	12/12/2011	1630	X						X	2	X
Building 7 Basement Solid	12/13/2011	0800	X						X	1	X

Preservation Codes: H=HCl T=Thiosulfate N=HNO3 B=NaOH S=H2SO4 O=Other

Remarks

Temperature of samples upon receipt (if requested)

For Lab Use Only

FSC:

SCR#:

Turnaround Time Requested (TAT) (please circle): Normal Rush

(Rush TAT is subject to Lancaster Laboratories approval and surcharge.)

Date results are needed: 12/30/2011

Rush results requested by (please circle): Phone E-mail

Phone #: 404-636-0928

E-mail address: jmurphy@kemron.com

Data Package Options (please circle if required)

Type I (Validation/non-CLP) MA MCP

Type III (Reduced non-CLP) CT RCP

Type IV (CLP SOW)

Type VI (Raw Data Only)

TX TRRP-13

EDD Required? Yes No

Site-specific QC (MS/MSD/Dup)? Yes No

(If yes, indicate QC sample and submit triplicate sample volume)

Relinquished by:	Date	Time	Received by:	Date	Time
	12.14.11	1030		12/14/11	10:30
	12/14/11	1840			
				12/14/11	1840

Lancaster Laboratories, Inc. 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 717-656-2300

Issued by Dept. 4039 Management

4886.03

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.